PR-28. STRATEGY OF DIRECT C(sp^2)–H FUNCTIONALIZATION IN NON-AROMATIC AZAHETEROCYCLES AS AN EFFICIENT APPROACH TOWARDS NOVEL 2*H*-IMIDAZOLE DERIVATIVES

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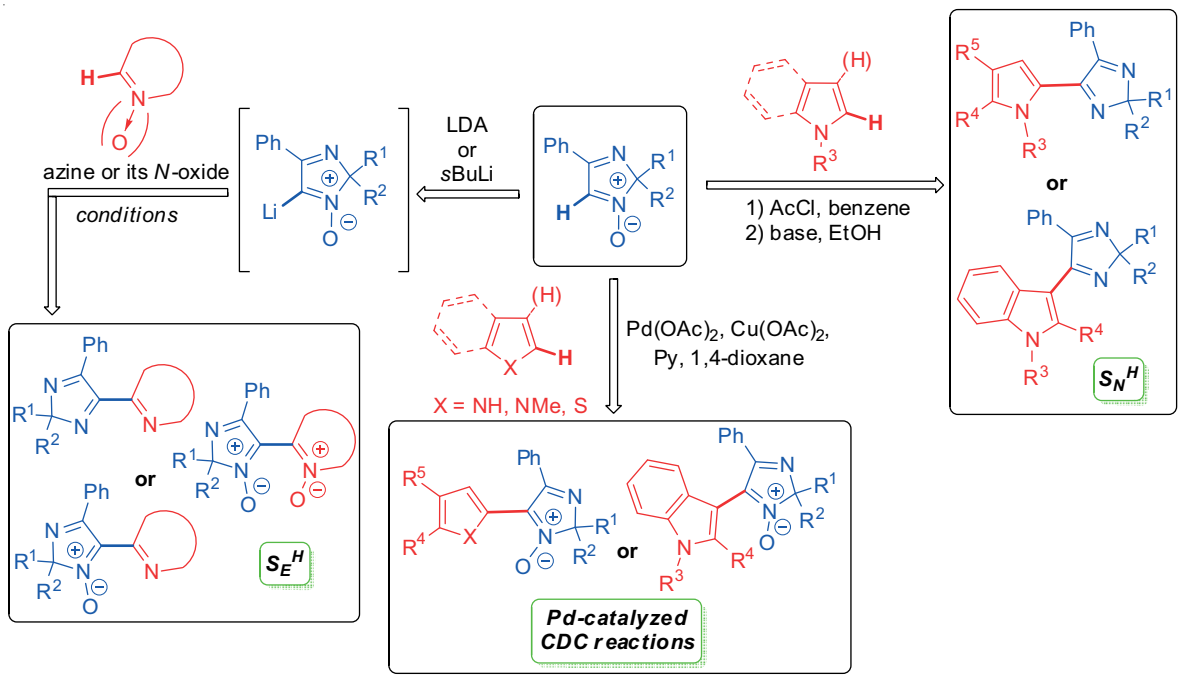
The strategy of direct C(sp^2)–H functionalization is known to be a powerful synthetic tool, based on principles of green chemistry and sustainable development concepts, to design organic molecules using both laboratory methods and industrial processes. The methodology of C(sp^2)–H functionalization has first been applied to modify non-aromatic heterocyclic substrates, 2*H*-imidazole derivatives. These cyclic aldonitrones have been successfully involved to various types of interactions, such as both electrophilic and nucleophilic substitution of hydrogen, as well as palladium-catalyzed cross-dehydrogenative coupling (CDC) reactions. As a result of carried out C–H/C–H and C–H/C–Li coupling reactions, novel 5-substituted 2*H*-imidazoles, containing fragments of five- and six-membered heterocycles, have been synthesized. It should be noted that the retention of an *N*-oxide function in the final product structure depends on the selected conditions of the transformation [1–4].



An increased interest in the synthesized biheterocyclic derivatives is due to the prospects for further application of these compounds in the design of biologically active substances and materials for organic electronics.

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